

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A product which is provided with a first information code which is arranged to redundantly code at least one first information element by means of a plurality of marks, the first information code comprising a plurality of first reference positions, each of said plurality of marks being associated with one of said first reference positions characterised in thatwherein the product is further provided with a second information code that comprises a plurality of second reference positions, which constitute a selection from said plurality of first reference positions, wherein at least one additional information element is coded by the second information code by at least one mark belonging to the first information code being intentionally omitted such that at least one of said plurality of second reference positions does not have an associated mark. ~~at least one additional information element is coded on the product by at least one of said plurality of marks being omitted on the product.~~

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) A product according to claim 31, wherein the first reference positions define a first virtual raster, which has first raster lines and in which the first reference positions consist of points at which the first raster lines intersect.

5. (Currently Amended) A product according to claim 31, wherein said at least one additional information element is coded by how said plurality of second reference positions are placed in relation to said plurality of first reference positions.

6. (Currently Amended) A product according to claim 31, wherein each second reference position in the second information code represents a first value if it has an associated mark and a second value if it does not have an associated mark.

7. (Original) A product according to claim 6, wherein the second reference positions form at least one cell with at least two second reference positions and wherein said at least one cell has a cell value that is determined by which values are represented by the second reference positions included in the cell.

8. (Original) A product according to claim 7, wherein said at least one cell has a fixed placing in relation to the first information code.

9. (Previously Presented) A product according to claim 7, wherein said at least one additional information element is coded by the cell value of said at least one cell.

10. (Previously Presented) A product according to claim 1, wherein said at least one additional information element represents a position.

11. (Previously Presented) A product according to claim 1, wherein said at least one first information element represents a position.

12. (Previously Presented) A product according to claim 1, wherein said at least one first information element is coded by means of variation of a parameter for the marks.

13. (Original) A product according to claim 12, wherein each mark in the first information code has a value that is determined by said parameter.

14. (Previously Presented) A product according to claim 12, wherein said parameter is one of the following: placing of the mark, shape of the mark, colour of the mark and size of the mark.

15. (Original) A method for coding, which method comprises redundantly coding at least one first information element in an information code by allocating a value to each of a plurality of marks, which value indicates how the mark is to be represented graphically when applying the information code on a product, and comprises coding at least one additional information element in the information code by allocating a value to at least one of said plurality of marks, which value indicates that the mark is to be omitted during said application of the information code on a product.

16. (Original) A computer program product, which comprises program code that is arranged to carry out a method according to claim 15 when it is executed by a computer.

17. (Original) A device for coding an information code, comprising a processing unit which is arranged to redundantly code at least one first information element in an information code by allocating to each of a plurality of marks a value that indicates how the mark is to be represented graphically when applying the information code on a product, and to code at least one additional information element by allocating to at least one of said plurality of marks a value that indicates that the mark is to be omitted during said application of the information code on a product.

18. (Currently Amended) A method for decoding an a first and a second information code, comprising:

locating a plurality of marks in a digital representation of the first and the second information code,;

determining a plurality of first reference positions for the marks, each of said plurality of located marks being associated with one reference position;

determining the values of the located marks for decoding at least one first information element coded by the first information code;

identifying a plurality of second reference positions, which constitute a selection from said first reference positions; identifying at least one mark omitted in the information code and

decoding at least one additional information element coded by the second information code by identifying at least one of said second reference positions for which the associated mark belonging to the first information code has been intentionally omitted such that the second reference position does not have an associated mark by means of said at least one additional information element.

19. (Original) A computer program, which comprises program code that is arranged to carry out a method according to claim 18 when it is executed by a computer.

20. (Currently Amended) A device for decoding an a first and a second information code, comprising a processing unit which is arranged to locate a plurality of marks in a digital representation of the first and the second information code, to determine a plurality of first reference positions for the marks, each of said plurality of located marks being associated with one reference position, to determine the values of the located marks for decoding at least one first information element coded by the first information code, to identify a plurality of second

reference positions, which constitute a selection from said first reference positions, to identify at least one mark omitted in the information code and to decode at least one additional information element coded by the second information code by identifying at least one of said second reference positions for which the associated mark belonging to the first information code has been intentionally omitted such that the second reference position does not have an associated mark by means of said at least one additional information element.

21. (Currently Amended) A product which is provided with an information code that codes at least one first information element by means of a plurality of marks, the information code comprising a plurality of reference positions, wherein each of said plurality of marks is associated with one of said reference positions, characterised in that wherein the product is further provided with at least one interference mark which has optical characteristics that differ from those of said plurality of marks, wherein each information element is coded by a set of a predetermined number of reference positions with associated marks.

22. (Original) A product according to claim 21, wherein said plurality of marks are arranged to be detected by a decoding device, using which said at least one interference mark is not detectable due to its optical characteristics.

23. (Previously Presented) A product according to claim 21, wherein said plurality of marks absorb infrared light and said at least one interference mark does not absorb infrared light.

24. (Previously Presented) A product according to claim 21, wherein copy protection is achieved by means of said at least one interference mark.

25. (Previously Presented) A product according to claim 21, wherein the product comprises at least one interference mark for each first information element that is coded by the information code.

26. (Cancelled)

27. (Currently Amended) A product according to claim 2621, wherein each set has at least one reference position for which the associated mark is replaced by an interference mark.

28. (Currently Amended) A product according to claim 27, wherein each mark represents a value and each interference mark represents a different value to that of the mark ~~that it replaces~~replaced by corresponding interference mark.

29. (Currently Amended) A method for producing a product with an information code that codes at least one first information element by means of a plurality of marks, the information code comprising a plurality of reference positions, wherein each of said plurality of marks is associated with one of said reference positions, comprising:

applying said plurality of marks on the product; and

applying at least one interference mark on the product, which interference mark has optical characteristics that differ from those of said plurality of marks; and

coding each information by a set of a predetermined number of reference positions with associated marks.

30. (New) A product according to claim 21, wherein said at least one interference mark is applied in the product in relation to associated reference position in a manner that is different than a manner in which an omitted mark would have been applied in said product.

31. (New) A product according to claim 30, wherein said applying of at least one interference mark is mirror-inverted in relation to the applying of the omitted mark such that both corresponding bit in an x-bit matrix and corresponding bit in a y-bit matrix will be incorrect, wherein the x-bit matrix codes an x-coordinate and the y-bit matrix codes a y-coordinate for said at least one first information element.

32. (New) A product according to claim 23, wherein said plurality of marks are applied with carbon-based black pigment and said at least one interference mark is applied with non-carbon-based black pigment.

33. (New) A product according to claim 23, wherein said plurality of marks are applied with carbon-based black pigment and said at least one interference mark is applied with non-carbon based pigment that is made up of a combination of cyan, magenta, and yellow colours.

34. (New) A product according to claim 24, wherein copy protection is achieved by ensuring that when said at least one interference mark is copied, the interference mark changes its optical characteristic from being not absorbing infrared radiation to absorbing infrared radiation.

35. (New) A product according to claim 21, wherein said plurality of marks are fluorescent in a predetermined light and said at least one interference mark is non-fluorescent in said predetermined light.

36. (New) A product according to claim 35, wherein copy protection is achieved by ensuring that when said at least one interference mark is copied, the interference mark changes its optical characteristic from being non-fluorescent to fluorescent.

37. (New) A product according to claim 21, wherein the product is further provided with a second information code that comprises a plurality of second reference positions, wherein at least one of said plurality of second reference positions does not have an associated mark, with at least one interference mark being inserted in said at least one second reference position that does not have the associated mark.

38. (New) A method according to claim 29, further comprising: applying at least one interference mark in the product in relation to associated reference position in a manner that is different than a manner in which an omitted mark would have been applied in said product.

39. (New) A method according to claim 29, further comprising: applying said plurality of marks on the product with carbon-based black pigment and applying said at least one interference mark on the product with non-carbon-based black pigment.

40. (New) A method according to claim 29, further comprising: producing the product with a second information code that comprises a plurality of second reference positions, wherein at least one of said plurality of second reference positions does not have an associated mark, with at least one interference mark being inserted in said at least one second reference position that does not have the associated mark.

41. (New) A method according to claim 18, further comprising: decoding the at least one additional information element by identifying how said plurality of second reference positions is placed in relation to said plurality of first reference positions.

42. (New) A method according to claim 18, wherein each second reference position in the second information code represents a first value if it has an associated mark and a second value if it does not have an associated mark.

43. (New) A method according to claim 42, further comprising: identifying at least one cell including at least two second reference positions and decoding a cell value from the values represented by the second reference positions of the cell.

44. (New) A method according to claim 43, further comprising: identifying the cell based on its fixed placing in relation to the first information code.

45. (New) A method according to claim 43, further comprising: coding said at least one additional information element by the cell value of said at least one cell.